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Sound connects people; it draws us together.[1] It was Count Basie who drew me towards one of the editors of this volume. He was playing *Lester Leaps In*. And it was the sound of the music that pulled me in through a half-open door. There in front of an empty classroom an old 78 wind-up gramophone was spinning. Lez Back was preparing a lecture on jazz in pre-war Germany. We hadn't met before, but we quickly got to talking about mutual research interests . . .

This piece suggests how it might be possible to understand some effects and affects of sound and the nature and qualities of the sonic.[2] To do this I identify a particular phenomenon that I am calling sonic dominance. Football crowds, raves,[3] political demonstrations and certain religious rituals are other contexts that produce this phenomenon of sonic dominance. But my personal favourite site for the experience of sonic dominance is the Reggae sound system session. For me this is the epistemic example.[4]

The first thing that strikes you in a Reggae sound system session is the sound itself. The sheer physical force, volume, weight and mass of it. Sonic dominance is hard, extreme and excessive. At the same time the sound is also soft and embracing and it makes for an enveloping, immersive and intense experience. The sound pervades, or even invades the body, like smell. Sonic dominance is both a near over-load of sound

and a super saturation of sound. You're lost inside it, submerged under it. This volume of sound crashes down on you like an ocean wave, you feel the pressure of the weight of the air like diving deep underwater. There's no escape, no cut off, no choice but to be there. Even more than music heard normally at this level, sound allows us to block out rational processes, making the experience imminent, immediate and unmediated. But the more powerful and unrepeatable experience, the more it's impossible to ever be fully described – and paradoxically the more it demands to be pointed out, gestured towards, discussed and endlessly elaborated in all its effects and affects. Sonic dominance is visceral, stuff and guts. Sound at this level cannot but touch you and connect you to your body. Its not just heard in the ears, but felt over the entire surface of the skin. The bass line beats on your chest, vibrating the flesh, playing on the bone and resonating the genitals.

Sonic dominance occurs when and where the sonic medium displaces the usual or normal dominance of the visual medium. With sonic dominance sound has the near monopoly of attention. The aural sensory modality becomes *the* sensory modality rather than one among the others of seeing, smelling, touching and tasting. This dominance of the sonic can of course always be interrupted for example by smelling fire, or seeing a gun or a knife. It's only with deep religious trance states that, for example, the sense of pain can be blocked out completely.

This relationship between the different senses and how the senses are organized hierarchically and non-hierarchically is one central theme of this piece.[5] With the sonic, as I will discuss, environment, context and the *combination* of the senses are all particularly vital. A further complication is that with respect to the relative importance of the senses, people's everyday practice is often different from their own understanding of what they are doing. This is a point Pierre Bourdieu makes: 'It is because subjects do not, strictly speaking, know what they are doing that what they do has more meaning than they know.'[6] And in turn a person's own understanding may be different again from how social and philosophical theory considers the relative importance of the senses.

Generally speaking the aural and the sonic world is probably more useful and important for the understanding of life and the negotiation of the everyday world than people might think it is. In practice it is the cooperation between the senses that's usually more important than any rigid hierarchy. By contrast the thrust of much of the Western philosophical and social science tradition has been to privilege the visual sense as the source of knowledge above all others. One of the ambitions for the present piece and the project of which it is a part, is for theory

to recognize what is already embodied in practice with respect to the sonic – notwithstanding W. B Yates' reminder: 'Man can embody the truth, but he cannot know it.'[7]

I choose the word 'dominance' deliberately to suggest both the power and the pleasure of the sonic. This requires a distinction between two different aspects of power. Normally power is considered as being *owned and used over others*, as with oppression or subjugation. As distinct from this, power can also be considered as being *shared with others*, as with peaceful collective endeavours. It's this creative capacity and productive power of the multitude – as Hardt and Negri theorize it – that Empire feeds off.[8] Sonic dominance is important in this second sense, as a life force. Another of the themes to be developed here is how the sonic suggests an understanding that is based on connection, combination and synthesis, rather than division, separation or analysis alone. In the sound system session sound is dominant. But it's also irresistible. Bob Marley was obviously thinking about sound system when he sang: 'The one good thing about music/When it hits you feel no pain.' What you do feel is pleasure, or something that even defies commodification – joy.[9]

The Dancehall crowd attends the session, as do those taking part in the Carnival parade in Port of Spain or Notting Hill in London, for the pleasures of the experience. They enjoy the feeling they're 'taking charge', 'owning the street' and assuming their own value, importance and identity on 'the road mek to walk on Carnival Day'.[10] And sound plays a big part in this. It's as if the sound itself becomes both a source and expression of this power. But, as would be expected from the contextual and relational understanding being developed, the effects and affects of sonic dominance are not necessarily and predictably any one thing. This is a kind of power that can be used for good or ill. How sound is used depends on the particular social, political and cultural conventions and traditions. And also the leadership of the crowd is a critical issue. The crowds in Coliseum in Ancient Rome, or some football crowds, or a Nazi rally demonstrate how sonic dominance can be used negatively and destructively. Sonic dominance does carry this edge of risk, even abandon. As my local pirate radio station DJ Charlie B on Vibes FM has it: 'Tune in, pump up the volume and rip off the knob. We just don't care.'

The Reggae Sound System

The Reggae sound system is considered here as an already occurring socially and culturally constituted living laboratory.[11] This technical

model or apparatus will be used for the demonstration and investigation of the phenomenon of sonic dominance.[12] The Reggae sound system has its place in an aural, oral, acoustic, auditory and musical landscape that is extremely rich and varied. And in Jamaica there are other social institutions where the sonic is used in similar way as in the sound system, namely the numerous local Baptist churches and the Jamaican African-inspired religions forms such as Kumina, Myal and Pocomania.[13, 14]

Of all sound systems the best known, longest established and most renowned all over the world is Stone Love. Founded by Mr Winston 'Wee Pow' Powell, Stone Love has several sets of equipment that with their crews are continuously working. One is based locally in Kingston, another caters for the rest of Jamaica and the third one is more-or-less permanently on world tour. Stone Love has been instrumental in promoting Reggae music worldwide in North America, Europe and Japan. At home Mr Powell has even used the appeal of their music to help bridge some of the political and class divisions of the island. Travelling from gig to gig as a circus does, the sound system can be described as a peripatetic, highly mobile, circulating nomadic institution.[15] The sound system is inseparable from movement not only through time, but also through space.

For their followers and fans, Stone Love has successfully defended its position at the top of the sound system league table for the last 30 years. At special competitive sound system 'clashes' they have consistently beaten off the rival systems for the support of the crowd. This is earned on the power and quality of their sound, the Selector's choice of music and the one-off 'dub plate specials' they have been exclusively commissioned from the leading recording artists of the moment.

Technologically a Reggae sound system is a mobile apparatus for the production and mixing of large volumes of sound. It consists of the 'set', this is the amplification equipment capable of producing some 19,000 watts of well-mixed sound (as I was told by the Stone Love Chief Speaker Builder and Engineer, Horace McNeal). The other major components of the set are the banks of loud speakers. Usually three speaker stacks are used in a triangular configuration to point *inwards into* the 'Dancehall crowd' or audience, rather than directed *outwards onto* an audience as they would be either side of a stage. The sound system session creates a special bowl, or receptacle, or amphitheatre that is entirely filled with the sound and the crowd, but open to the sky above.

Sound systems are microcosms of the social, cultural and economic sonic relationships in which they partake. They are a form of expression that comes out of the downtown areas of West Kingston. In the 1960s Prince Buster called his most popular sound system Voice of the People. They also constitute a form of entertainment that's part of the creativity of Reggae and Dancehall culture. Only recently have there been sound systems under middle-class ownership. Only in the last 10 years or so has Stone Love been playing in the uptown clubs to a new middle-class audience. Like the Reggae music genre itself absorbing other musical influences, the apparatus of the sound system is sufficiently robust to take on all-comers – mixing and blending to strengthen rather than weaken itself.

Over the last 40 years, Reggae sound systems in Jamaica have become institutions on a par with the local churches and football teams. Sound systems also inspire loyalty and fervour in a similar manner. They employ large numbers of people and directly influence the lives of many others from the peanut vendors to the politicians who employ them to draw the crowds to their meetings. They have also had a very considerable influence on the development of the Reggae music. The current Dancehall Reggae is so named because, as it was banned from the radio, it could only be heard on the sound systems at the open-air dancehalls.

This takes us into the political arena to the battleline, in which sound and particularly sonic dominance, is invariably involved. With a Jamaican society that is both highly polarized and an immensely complex mix of colour, class and caste,[16] Dancehall culture often serves as the borderline between the poor and working classes and the Jamaican middle classes. Despite Reggae music being acknowledged as giving Jamaica its global profile, amongst the middle classes none but the youth can hear anything of merit in the current music. Significantly this opposition to the sound system and its culture is expressed as criticism of the pleasures of the body and the female body in particular.

The older generation of the Jamaican middle classes consider Dancehall – the style and attitude, lewd dances, immodest fashions, extravagant hair and makeup – entirely and absolutely excessive. For them the lyrics promote only violence and 'slackness' as it is called in Jamaica. (If the Bad Body hangs loose, relaxed and slack, then presumably the Good Body must be tight-lipped, upright and uptight.) Calls for censorship and the banning of Dancehall are common in the newspaper opinion columns. Curbs and regulation are discussed on the numerous radio talk shows that are a particular feature of the Jamaican media landscape (in resonance with Jamaica's strong oral culture). To the outraged middle classes Dancehall is simply out of control. Indeed it thrives on a particular creativity and imagination grounded in extravagance, free flows, excess, surplus and an economy of pleasure.[17] This

runs counter to conventional middle-class mores of an ex-colonial island that from the standpoint of the metropolis appear particularly prim and distinctly old-fashioned. To this extent attitudes tend to conform to conventional psychodynamic models of desire. Broadly these can be characterized as being motivated by fear, insufficiency and lack – the very opposite of surplus.

The sound system's playing of the music is also considered to be excessive – too loud. This is, of course, the kind of evaluation that places the sound system in the midst of controversies over regulation. This dynamic of expression and repression, pleasure and restraint, amplification and filter is often a critical feature of the sonic.[18] The Noise Abatement Act, 1996 attempted to restrict the volume and times sound systems are allowed to play. It states: 'the level of noise in Jamaica both day and night has become truly appalling and it is affecting the health and welfare of the nation.'[19] As a consequence of the debate over this alleged noise pollution, the Sound System Association of Jamaica was formed. Its purpose, the Association's co-founder and Press Officer Ms Louise Frazer-Bennett told me, was to fight what it saw as the restrictions to their freedom and to defend the music as the key form of cultural expression for Jamaica's poor and working-class communities.

To the Jamaican middle-class body politic the apparently uncontrollable excesses and social nature of the sonic have caused it to be considered as dangerous to the status quo. In social theory only the Marxist tradition values solidarity, sociality and social relationships, in any case. Otherwise the social nature of being has most often been theorized as inferior, without rationality and threatening to the individual. The crowd in particular is to be feared, as was detailed in Gustav Le Bon's *The Crowd: A study of the Popular Mind* published in 1900. And Jacques Attali in *Noise: the Political Economy of Music* identifies one of the reasons why this association of the sonic and the social is considered dangerous.[20] He claims musical forms can *anticipate* social forms. Certainly contemporary youth sub-cultures invariably use musical sound, possibly more than visual image, as their point of self-identification, if not rebellion. In fact, one important feature of the sound system culture is that it provides a tradition prescribing limits of time and place for such sociality to prevent it becoming 'too' excessive. Bakhtin's description of European carnival 'turning the world upside down' or Durkheim's 'collective effervescence' are precisely the exceptions to prove the rule. The continuance of carnival and Reggae sound systems evidences the political value of such safety valves as temporary licences for transgression.

These fears of the body as a threat to rationality are deeply felt and go back a long way in the Western philosophical tradition. And in as much as sound is connected to the body it only fuels them. In *The Birth of Tragedy* Nietzsche locates the moment of origin for this in Western culture in the conflict between Apollo and Dionysus in ancient Greek mythology. Apollo's victory for the rational control over Dionysus' bacchic emotional excess was reprieved in Titian's Renaissance masterpiece *The Flaying of Marsyas*. Here the poor Satyr's punishment of having his skin torn off from his body – literally disembodiment – was for daring to compete with Apollo in a musical competition. This is a lesson in rational discipline. The body out of rational control is thought to be subject to all types of dangerous excesses associated with intoxication, reverie and the sublime.

Sonic dominance takes us to the sound barrier – that is the edge of sound. Electronic amplification pushes the sonic to the limits. On one side is music, on the other noise. On one side is regulation, modulations and moderation, on the other is irregularity, unpredictability and excess. Noise disrupts, dislocates and interrupts the so-called harmony of the status quo.[21] Noise is not signal, not music, not organized, not normal, not under control. It breaks the socially prescribes rules. Noise is 'rude and uncouth', 'strange' and 'wild' – the words use used by a ship's surgeon to describe the slaves made to sing and dance on their crossing.[22] Noise takes sound *out of order*. It's chaos. And this, of course, is its creativity, and this is equally obviously necessary for the continued growth of the social and political body as a whole. With sonic dominance the Reggae sound system is exploring a similar borderline of sound's threshold with noise that, at the beginning of the century proved so productive for the Western tradition of Modernism. The Futurist Luigi Russolo made 'noise machines' and published *The Art of Noise* in 1913.[23] Noise comes from outside the theoretical system from the bits in between, intervals, gaps, folds and interstices. [24] Sonic dominance comes *from outside* the official uptown social system from the abandoned margins of society, that is the ghettos of downtown West Kingston.

The Intensity and Materiality of Sound

The sound just hits you. You can't ignore it. You have to feel it. Describing the Reggae sound system session the word 'dominance' is intended to suggest the material substance and the imminence of the sound. The effects and affects of the intensity or overload of sound may be compared to the extreme 'underload' that is produced both in the absolute silence

of anaechoic chambers, in meditation techniques using an image or repeated sound 'mantra' and in experimental conditions of sensory deprivation.[25] Such extreme low threshold states break the norm of modest amounts of sensory stimulation. With sensory deprivation hallucinations are commonplace and instructively these tend to be floating out of body experiences. With sensory overload the opposite is the case, as they tend to be grounding 'into body' experiences as expressed in movement and dance. Overload and underload both tend to circumvent normal rational process.[26]

When the Reggae sound system is considered as an experimental apparatus for producing the conditions for sonic dominance we're lead back to the nineteenth-century foundation of scientific psychology. In 1860 Gustav Fechner published *Elements of Psychophysics* in which he described his experimental measurement of sensation and the physiology of the senses.[27] Fechner's concern was to establish a quantitative relationship between mind and body, which is mental sensation and material stimulus.[28] He investigated the minimum sensitivity of the sensory system at the lowest possibly thresholds of audibility, visibility and tactile sensation. To do this he developed the methodology of the just noticeable difference (JND) as the basic unit of the measurement of the intensity of sensation. By contrast sonic dominance occurs at the upper threshold of the sensitivity of the auditory sensory system. It could be described in terms of the just bearable difference (JBD) as an obverse reflection of the foundation of the science of psychology.

This idea of excess as pain, ordeal and even abuse – as well as pleasure – is also very much part of the world that has produced the Reggae sound system and Dancehall culture. In Jamaican parlance one of the terms used express this is 'sufferation'.[29] And this attitude also extends to technical equipment. Discussing his speaker designs, Stone Love's Chief Equipment Builder and Engineer put it thus: 'we abuse things in Jamaica, we abuse musical equipment, what the man makes the things to do, we ahead of it.'[30]

The sonic dominance generated in the Reggae sound system session draws attention to our intimate and multiple connections not only with our body, but also with our spatial and temporal environments. One way this has been described is in Merleau-Ponty's phenomenology. Referring to our relationship with the world Merleau-Ponty deploys the term 'chiasm', which in physiology means the intertwining or criss-crossing of nerves.[31] This contrasts with the normal visual assumption of the chasm between observer and observed. The sonic operates with the qualities of mood, colour, texture, timbre and affect, rather than the quantities of measured calculation. The particular spatiality attaching to the sonic has been described as 'acoustic space.'[32] This is a kind of space you are inside as well as outside and it is inside you as well as you being inside it.[33] In fact with sound it simply does not make sense to think of having an inside and an outside in the way that the visual sensory modality, with its preoccupation with surfaces, restricts us. Sound is both surface and depth at once. As emphasized by sonic dominance, sound is everywhere, hardly even making the dualistic division between here and there.

In fact, sonic dominance helps to generate a specific particular sense of *place* rather than a general abstract idea of space.[34] It's unique, immediate and the place of tradition and ritual performance. Indeed the Reggae sound system session draws inspiration from a rich array of creolized West African religious ceremonies that continue to be practised in Jamaica today. Acoustic space and sonic place are the antithesis to the typically post-modern 'non-places' of airports, shopping malls, high streets and ATM aprons that Marc Auge discusses.[35] Those are generic, abstract and empty spaces. Sonic spaces are by contrast specific, particular and fully impregnated with the living tradition of the moment. Each has a certain definite haeccity or 'thisness' about it.[36]

Considering time, sonic dominance contributes to the generation of a particular specific sense of event. This is the cyclical yet unrepeatable place of recurring ritual, rather than the abstract notion of continuous time or the idea of progress. Sonic time, like sonic space, is not travelled in straight lines. It's too heterogeneous for that. If written it would be in layers and with the depths of a palimpsest. In contrast, the writing of visual space is in Euclidean straight lines and flat planes on the uniform blank expanse of a *tabula rasa*.

These qualities of space and time associated with the sonic dominance makes it a multi-dimensional and multi-temporal experience, like filmic time and space.[37] By contrast, the visual modality tends to be seen as separating and isolating, most notably in the idea of the single point of view. This idea of linear perspective is quite a modern one.[38] Before the Renaissance invention of perspective, space was pictured in what appears to our modern eye as a more 'jumbled' fashion in for example in Brugal's work and most medieval painting. Another way of putting this might be to consider such canvases as an acoustic type of visual representation.[39] Often considered as drawing on more ancient 'primitive' forms, the rebirth of Modernism at the beginning of last century certainly exploded the single point of view and the linear time line with the complexities of multiple perspective and space/time. We can identify this in the 'volumes' of Picasso's African inspired sculptures; Braque's fractured

Cubist canvasses; Dziga Vertov's all seeing from everywhere *Man with a Movie Camera*; the Symbolist poets obsession with the idea of 'simultaneity'; and even Einstein's Theory of Relativity.

The Ethereal and Material Combined

But there is, of course, the other side to sound besides its material reality. The crowds attend the sound system Dancehall sessions not only for the quality of the sound, but also for the music they play: the latest rhythms, the 'revival' of old-school classics from the past and the 'specials' by the most popular recording artists of the day. Indeed the musical richness and rhythmic complexity within the current Dancehall incarnation of the Reggae music genre is probably greater than at any period up to now.[40] With a top class sound system like Stone Love there's a softness, roundness and fullness to the mix. A Jamaican sound man would call this 'bare' sound that has a 'bounce' to it.

So while sonic dominance pumps up materiality of sound, it does not deny its ethereal qualities. These are the form, structure or pattern by which sound has been analysed and understood in the Western musical tradition. Pythagoras was possibly the first to consider this aspect of sound when he said he was listening to the music of the spheres. In fact to approach the sonic from its material aspect allows the inclusion of its ethereal aspect to a greater extent than when it is approached in the opposite direction. (In the same manner we shall see in the next section that sonic dominance is more inclusive of the visual than the visual dominance is of the sonic.)

In the Reggae sound system session the aural is both a medium for oral or musical codes of communication, as well as a material thing in and of itself. You feel *both* the air as the gaseous liquid medium that 'carries' the sound *and* hear the waveform of the shape of the sound. This is sound as both content and form, acoustic energy and sign wave information, both substance and code, particle and pattern. This illustrates how the conjunction *both/and* rather than the separation *either/or* appears to be particularly appropriate for thinking with and about sound. As already noted, sound can often be characterized as making connections, combinations and being inclusive in the way that the visual sensory modality tends to do the opposite and separate things. Musician and theorist Anthony Moore has coined the phrase 'either and both' for this.[41]

This combination and relationship of either and both the material and ethereal is of vital importance, as is the distinction between them. Each is necessary for the other in what could be described as an archetypal manner of female and male, or earth and sky, or yin and yang. Both need to be strong. Indeed Jamaican society, and Dancehall culture in particular, value both macho male aggression and female beauty and fertility. The Reggae sound system session provides the arena for this highly charged sexuality.

This 'either and both' relationship of the two side of sound at the normal macro scale of human listening can also be considered as analogous to the behaviour of light at the subatomic scale of quantum mechanics. According to Hiesenberg's Uncertainty Principle quanta of light behave both as a wave, or energy, and as a particle, or matter – both at the same time. This double-sided character of sound being two things at the same time may not conform to Western notions of rationality – but it is a common characteristic of Reggae sound system sessions in several further respects to be discussed.

The materiality of sound is like the sense of touch that connects us with our bodies and the world with the 'thisness' of experience mentioned above. At the same moment, again like touch, sound has this other opposite aspect that separates us from ourselves, each other and the world. *The sonic is as disembodying as it is embodying*. Just as the tactile sense is pre-eminent in determining the organisms simultaneous connection with and separation from its environment[42] the sonic sense plays a similar combining and separating role.

Historically it has been the disembodying rather than embodying aspect of sound that technology first captured with Thomas Edison's invention of the phonograph in 1877 and with it the public imagination. In his *Gramophone, Film, Typewriter*, Frederick Kittler gives a fascinating account of how the first use for phonographic voice recording was to listen to the literally disembodied voices of the dead.[43] This same theme was also taken up in Jean Cocteau's film *Orpheus* where the hero listens for his instructions from the dead in radio broadcasts. So once it became technically possible to record and transmit sound, why was sound thought capable of making this connection to bridge the chasm between life and death? It might be again because of the haeccity it evokes. The sonic helps to give us our own particular individuality. People's voices, like their bodily gestures, posture or gait, are as unique to them as their fingerprints, or iris patterns, or indeed a tiger's stripes or a leopard's spots. This is an aspect of the materiality of sound Roland Barthes refers to in *The Grain of the Voice*.[44] The amazing magic of the first phonographs is the same type of effect that anthropologists describe as being experienced by members of non-literate societies when they first listen to the reading of a book.

The critical point to note here is this: *it is only because the voice has once been embodied that it can subsequently be disembodied.* Thus Little Nipper when he listens so attentively in the famous HMV brand logo is hearing not just the ethereal sound to his master's voice but also remembering the authority embodied in it.

Communications theory, along with the technology and the scientific understanding of the acoustic, has also tended to pursue the sonic exclusively in its ethereal disembodied aspect. It tends to forget the other aspect of the material embodiment of sound, just as written culture tends to disregard – and disrespect – the qualities of the oral culture it supersedes. The breakthrough of information theory, as inaugurated by Claude Shannon in 1937 was to consider communication mathematically, that is as pure digital signal message without the noise, interference, dirt and other marginal matter belonging to the analogue body of the medium that usually surrounds it. When sampled and converted into purely digital information the computer can then store, manipulate, reproduce and transmit it ad infinitum – without the decay and delay that burdens analogue modulations. Only at the end point of consumption does this pure transparent digital code need converting back into analogue amplitudes – the only ones human animal senses can appreciate.

But while digital audio and video technologies are efficient and convenient, often it feels there is something missing. Invariably this 'something' is difficult to describe.[45] Extrapolating from the Reggae sound system's production of sonic dominance it can be suggested that this hard-to-define quality missing from the digital is to do with the particular sensual bodily pleasures of the materiality of the sonic. There are three of them. One is the pleasure of remembering – nostalgia. Certainly the crackle and surface noise of a vinyl LP has its own enchantment – this term recalling the ancient power of music that caused Odysseus to wax his ears against the sirens singing. The grain in film and its judder through the gate of the projector has these associations too. This is perhaps the rekindling the old flame of a past pleasure, a bodily remembering. Maybe, as compared with its cold clinical digital counterpart, the warmth and texture of analogue reproduction is to be enjoyed sympathetically as the trace of the medium's *own* bodily ache, a nostalgia – for its own source.

A second kind of pleasure of the materiality of the medium is to do with the kind of ambiguity associated with the either and both of medium and message, or noise and signal. One example of this is the stroke of the skilled water colourist's brush. The clumps of hair of an only half-wet brush can, for example, easily be used to depict clumps of grass, that is exploit the material nature of the medium in its message. Lucien Freud's brushwork in oils provides another example. From close up, at the micro scale his self-portraits are confused and meaningless daubs of paint.[46] But from the appropriate viewing distance an image with depth and rich detail miraculously emerges. It is as if as sensory beings we like to complete the picture ourselves, to make our own Gestalt forms out of the material, to achieve the pleasure of closure for ourselves. This is the pleasure of participation apparent to every good storyteller. A further point is that medium and message are always intimately connected. One example of this, described by David Rodowick, is how the new cinema digital projection technology that is set to replace film projection 'favours' or 'seems to feel right for' digitally originated 'films' like *Shrek*, rather than ones shot on celluloid.[47]

The third type of pleasure is pure sensation. This is untranslatable, irreducible and an end in itself. Especially when sound is the dominant sensory modality it becomes pure sensory experience. The study of affect has long been a neglected area of psychology until the current growing interest in the body, especially in Feminist theory. The work of Eve Sedgwick and Adam Frank has lead to a revival of interest in bodily sensation and affect. The key figure here is the psychologist Silvan Tomkins: 'It is enjoyable to enjoy. It is exciting to be excited. It is terrorising to be terrorized and angering to be angered. Affect is self-validating with or without any further referent.'[48]

This is what sonic dominance brings to the fore. Such pleasure can never be made to disappear entirely, because it is literally embodied in each of us. But at the same time they can be undervalued and impoverished and made inaccessible – for reasons that might well have to do with their bodily associations. This is what happens as and when a new level of mediation or encoding is introduced.[49] Digital recording has rendered analogue recording deficient in exactly this manner. The historic example of this process is of course the manner in which written culture engineered its suppression of oral culture.[50] In this instance, the intrinsic qualities of oral communication, that is bodily performance, were in principle impossible for the new visual written code to capture. As a result or because of this lack or inadequacy, the new visual code introduces a new set of yardsticks – like storage, reproduction and individual ownership – by which the old oral code is condemned as irredeemably inferior.[51]

Sonic and Visual Sensory Regimes

With sonic dominance sound displaces vision as the dominant sensory modality. The polemical value of the idea of dominance is to draw attention to the fact of how often visual dominance is assumed as the taken for granted norm. In the Reggae sound system session the sound becomes a thing in and of itself. This is unlike with a concert or stage show, as its called in Jamaica, where the crowd can usually see the artist performing live in front of them. In the session there is hardly any visual source, reference, location or origin to the sound. The artist who made the recording is present only via his or her disembodied voice. Even the Selector playing the record is often shrouded in darkness. This allows the sound to have its own autonomy. Sound in the session is a specific yet pervasive thing. And this allows the individuals in the crowd to have a relationship not *with* the sound as something separate from them, but *in* the sound as something which is a part of them. Breaking the normal synchronization between sound and image allows the crowd surrounded by the speaker stacks, or the guys right up next to a box, to be literally inside the sound and the sound to be inside them.

The sonic dominance produced in the context of the Reggae sound system session can be considered as an experiment in what it would be like if the world were ruled by sound, or at least understood in terms of a sonic metaphor. One of the critical differences between the regime of the ear established moment by moment by sonic dominance and the regime of the eye is that the sonic tends to be much more accommodating to the visual than the visual is to the sonic. Where the visual modality excludes others, the sonic includes them. There is ample evidence for this in the sound system session itself. Here the sonic environment is considered to provide the ideal setting for what is called 'modelling' – being seen to be there, in what, with whom, and so forth. Further the live video camera link to television monitors and sometimes video projection screens illustrates the value for the visual of its integration with the sonic experience. The sound system session is very much a multi-media, multi-sensory environment.

In general terms it can be said that the Western philosophical tradition tends to organize the senses hierarchically clearly privileging the visual sensory modality as the best foundation for knowledge. Vision and sight has been the over-arching troupe at least since Descartes and the Enlightenment.[52] A founding metaphor for this tradition is Plato's cave – where the shadow images of the real world play on the wall. Indeed the visual imperative is so strong few stop to remark that by far the most striking

sensory feature of any cave is not visual at all but sonic – the echo.[53] The philosophical assertion of the visual hierarchy of the senses is quite counter-intuitive. But this has not prevented its reflection being seen in everyday common sense assumptions. Blinded by images and our exposure to screens we see ourselves living in a visual rather than a sonic culture.

Tending to ignore experience, everyday practice, or the actual operation of the sensory modalities, social, literary, psychoanalytic, anthropological and cultural theory over recent decades has done nothing but follow this visual suit. With a few exceptions such as Louis Althusser's idea of the 'hailing up' or interpolation of subjects, there has been an obsession with the Gaze and the interminable 'reading' of everything as 'text'. Consequently sonic culture, listening, and energetic approaches have been ignored, as with, for example, Lacan's conversion of Freud's psychodynamic model to his own linguistic one. As was mentioned in the opening section there has been a long association between the visual, the rational and the mind. This has been distinguished from – and indeed opposed to – the sonic, the irrational and the body.[54]

Against this it has to be pointed out that the visually dominated hierarchy of the senses, besides not being practically accurate, is by no means universal across cultures. The Western model of the five senses, which are primarily orientated around vision to favour instrumental reason, has been handed down to us from Aristotle. But this is certainly not the only possible system. In 1883 Lord Kelvin, in his *The Six Gateways to Knowledge,* divided the sense of touch into the sense of heat and the sense of force.[55] The educationalist and philosopher Rudolph Steiner developed a twelvefold sensory system: touch; life sense; self-movement; balance; smell; taste; sight; temperature sense; hearing; speech sense; concept sense; and ego sense.[56]

In her *Culture and the Senses,* anthropologist Kathryn Linn Geurts studied a society in which the dominant sense was not even one of the five normally considered definitive.[57] For the Anlo-Ewe speaking people of South Eastern Ghana the most important sense is balance. The sense of balancing – physically, psychologically, spiritually and metaphorically – orientates all the other bodily senses in the way the visual sense does in the Western philosophical tradition.[58] Geurts discusses the senses as: 'ways of embodying cultural categories, or making into body certain cultural values or aspects of *being* that the particular cultural community has historically deemed precious and dear' (italics in original). It would be expected from the Sapir-Whorf hypothesis on use and language that

the importance of a sensory modality would be manifest in the sheer amount of vocabulary, which is indeed what Geurts found. Certainly I found the Stone Love engineers and many of those involved in the sound system way of life had a huge vocabulary for describing the all the nuances, fine grain detail, variety of types, effects and affects of the sound to which they are sensitive and sensible.

But why does it matter which is the dominant sense or even how many senses there are? I suggest this becomes increasingly important as Feminist and other research takes up the theoretical issues at stake in mind/body dualism. This is often to develop an understanding of the intelligence of the body that displaces the traditional privilege of the mind.[59] The processes of embodiment can only take place through the sensory perception. As long at the focus was on the abstract mental processes then the uniformity of the sense data originating from the different senses was easy to assume. Investigating embodiment requires more careful consideration of specific and unique qualities of the sensory modalities themselves. The Reggae sound system and its production of sonic dominance can be used to explore precisely this question with respect to sound. The senses are very context specific. Perhaps the only context-free distinction between sound and vision is with respect to the passage of time. Sound is time-based in a way that image is not (though of course cinema relies on the optical illusion of the movement of the image through time at a rate of 25 still frames per second). Music cannot be played backwards, images can. The written – in space – tends to maintain the status quo, whereas the spoken – in time – often questions it.

Maybe because of the congruities between hearing and touch, the sonic sensory modality often evokes emotional associations in the way that mere images fail to do. Sounds evoke images more than images evoke sounds. The advertising executives who partner their products with our musically intimate memories have consistently exploited this sensory tendency, as has Nick Hornby in his successful books *High Fidelity* and *31 Songs*. Music and ritual are close cousins as has been described in numerous anthropological studies and more recently in sociology by Michel Maffesoli.[60] Seeing and hearing work in different ways. As Marcel DuChamps put it: 'One can look at seeing; one can't hear hearing.'

Certainly, in practice, the other sensory modalities are often considered as having specific and unique qualities. Taste, for example, has been considered as the most all embracing of the senses. For more than 500 years people's 'good' or 'bad' taste has been considered to define them comprehensively. Etymologically the word derives from the Old French *taster* with the more embodied meaning of to 'feel, handle, or touch.'[61] Congruent with these origins, taste is understood physiologically as the most 'primitive' of the senses with the nerves from the taste sensors running directly to the hippocampus, which is philogenically the oldest part of the brain. In his monumental *Rememberance of Things Past*, Marcel Proust exploits this fact when he uses the taste of a Madalena biscuit to trigger feelings and associations long forgotten by the more advanced conscious, rational brain.

Also the various capabilities and sensitivities of the different sensory modes are increasingly being recognized in the new sciences where 'audification' or 'sonification' is proving to be a much more revealing way of understanding complex data than the more conventional visualization. One example of this is the work of Florian Dombois on earthquakes.[62] His audio seismology allows much more accurate understanding of these phenomena than any visual representation. Indeed hearing is often considered capable of recognising proportional relationships much better than vision can. Indeed, the recognition of the musical octave has been identified across the broadest range of cultures.[63]

Again, if we turn to actual practice, any idea of the philosophical hierarchy or competition between sensory modalities dissolves into combination, cooperation and augmentation. Rather than the dominance of any one sense, or any hierarchy of senses, in practice it is more like a matrix of senses, or flux, or web of the senses whose priorities vary according to the relevant context. At any one moment it is a multisensory impression of the world, on which a full understanding depends.[64] So my emphasis on sound in sonic dominance does not imply any ambition to replace or displace one visual hierarchy with another sonic one. While such a separation might be expected from the either/or binary logic of the visual domination, it is simply not the case with the 'either and both' 'reasoning' – as Jamaican Rastafarian philosophy calls it – of the sonic. Unlike the hierarchy of visual domination that tends to take the credit for the information received via the other senses; the sonic tends to respect each particular sense as such.

Transduction and Sonic Embodiment

In the Reggae sound system session sonic dominance amplifies the pleasures of sound. These pleasures have so far been described in terms of how sound makes 'either and both' connections: with ourselves through the sensation itself; with other people in the dance; with the

visual and other sensory modalities of the event; and with the multiple times, spaces and traditions of the dancehall. And based on these, sonic dominance also produces one further type of connection, not horizontally, but vertically to 'the higher level' as would be said in Jamaica. If sonic dominance is the imminence of sound, this is the transcendence.

To suggest that a Dancehall crowd is drawn there for some kind of quasi-spiritual experience implies that the sound system session has certain common features with Jamaican Baptist Church services and African-inspired spiritual rituals. While this is true, I would like to try to go further in understanding the processes and mechanisms by which this kind of transformation takes place. To do so I will describe the sonic dominance of the sound system session as producing what can be called 'transduction'. It might be that this process of transduction is what generates the pleasure, joy and the excess for which Dancehall is famous.

The Reggae sound system session offers several ready examples of transduction. The OED definition of transduction is 'the action of leading or bringing across.'[65] One example of a transducer, without which no sound system could function, is the loudspeaker. Engineers readily describe the speaker as a transducer, that is the device that converts energy from one form to another. With a speaker this is the transfiguration of electromagnetic waves on which the amplifier operates, into the sound waves we can hear. As Mr Horace McNeal, Stone Love's Chief Builder and Engineer, explained to me, this is done via the electromagnetic coil moving the speaker diaphragm. Another example of a transducer is a microphone – simply a speaker in reverse. Here sound waves are converted into electromagnetic waves for amplification etc. In the context of the Reggae sound system session, as would be expected, the DJ uses a mike to address the crowd and 'build the vibes'.

The third example of transduction is concerned not with electromagnetic flows but with bodily currents. The human body can be considered as a sensory transducer – in dance. At its simplest a musical bass line provokes the kinetic movement of tapping your foot to the rhythm. This occurs automatically and without thinking about it, as a bodily rather than a rational response. It's a transformation sonic energy into kinetic energy. The Reggae sound system session as a highly elaborated social and cultural apparatus that informs and forms this movement into the shape of the current dance craze. The two sides of the sonic, the ethereal and the material, are amplified by tradition and technology respectively. This rich and exciting dance world of the sound system session deserves full investigation and analysis in its own right.[66] I shall just give a hint of what the dance is like here:

> . . . most dramatic is the Drive By dance, where the men lean back as in a car and have their hands in the air in front of them mimicking hands on the steering wheel, driving, windscreen wipers on the cue bellowed by DJ Skyjuice. A formation of five or six dancers then sweep across the length of the arena, proceeded by the video camera and its spotlight and surrounded by the moving circle of the crowd . . .[67]

Due to its unavoidable bodily associations and the fact that a sense of movement is not one of the privileged five, it should not be surprising that dance, particular African dance, is so often reduced and biologized as 'natural rhythm'. As a helpful counter to this Merleau-Ponty's phenomenology emphasizes that without motility, this potential for movement, the world would not make sense or have depth.[68] My use of the term transduction, as a connection or homology between physical and social circuits, flows and fields, is not intended as any kind of reductionism. Rather it is intended to open up the imaginative and scientific possibilities – taking its inspiration from, for example, Norbert Wiener's application of the principles of mechanical feedback processes to human behaviour. This gave birth to the new science of cybernetics.[69]

This concept of transduction again exemplifies how the condition of sonic dominance can reveal the often hidden functioning of the senses. At each point of transduction, electromagnetic, sonic or cultural, one thing changes into another. This creates a surplus. Transduction describes a process of transcending the dualities of form/content, pattern/substance, body/mind and matter/spirit. A transducer is a device for achieving the escape velocity to leave the world of either/or and enter the world of either and both. It increases speed and energy, in the same way as the Reggae sound system set amplifies sound.

Sonic dominance transduces the crowd across several thresholds over the passage of the session through until dawn. It generates a very special type of environment and experience – a place between places and a time out of time. Anthropologist Victor Turner[70] describes these as 'liminal' states or places. Outside normal society, these are thresholds where transition, transfigurations and rites of passage occur.[71] In such liminal states communication often takes place at a sublime or heightened level, communicating in an unworldly language, like the Pentecostal speaking in tongues so common in the Jamaican churches.[72] Maybe music provides a similar ethereal language. As noted with sensory deprivation, liminal states of overload have similar affects and effects. Periods of isolation, suffering and ordeal are invariably the prerequisites for the leader's rebirth into their new role, according to most religious creeds.

With the extremes of excess or deprivation it would seem a process of either and both desensitization and sensitization takes place.

As a liminal state the sound system session provides ample evidence many of the roles, figures and practices common to both Western and African mythologies. Thresholds traditionally require Guardians. In the world of the Reggae sound system, this role falls on the Gateman who controls not only entry into the session but is also in charge of security inside the venue. Like Cerberus the three-headed serpent-tailed dog at the entrance to the Greek mythological underworld of Hades, the Gateman's role is to challenge and test those who would wish to cross over the threshold.

And any such crossing requires a Guide to offer the hope of a safe return journey. In the Reggae sound system session this role is taken by the Selector who chooses the records to fit the mood and vibe of the crowd and the DJ who gives them verbal feedback and encouragement. The sound system session shares certain features with ancient African traditions. The Call and Response feedback between DJ and audience for instance, which has also been taken up in the Jamaican Baptist churches, links the roles of DJ and priest for many of the Dancehall crowd. Here the DJ guides their transformative journey through the night and ensures a safe and peaceful re-entry into the normal world at dawn. The DJ, feeling the vibe of the crowd and the music, is often said to be 'riding the riddem', matching his words and their content perfectly to the beat. In the Reggae sound system session it is the DJ who's in control, he or she rides the spirit on the currents of the music. This, in fact, transposes the usual idea of spirit possession, as in Voodoo, where it is the gods who ride the possessed.

Another example of a Guardian god is Legba, the West African god/goddess of crossroads.[73] Caribbean folklore renames this Trickster god as Anancy, who takes the form of a spider, sitting in the middle of its web. For the Greeks the god of transformation and communication is Hermes, for the Romans, Mercury. Invariably, crossroads are the places for these strange transformations: where Oedipus killed his father; where *Macbeth's* witches meet; and where Robert Johnson tells us he sold his soul for the devil's gift of the Blues. Such currents run deep under the normal consciousness of rational thought.

The sonic dominance of the Reggae sound system session generates its own particular state of being and its own particular logic and distinct and different form of rationality. Traditional Aristotelian logic, which is considered as the rational norm, eschews contradiction.[74] It states that A and not A cannot both be true at the same time. But Dancehall sessions are replete with instances of 'either and both' logic. Dancehall culture readily embraces such apparent contradictions. Often negative 'gangster' lyrics appear on one side and the uplifting positive 'cultural' lyrics on the other side of the same 7" 45 rpm single (which is still the common currency of the Jamaican music market). A sound system engineer I spoke to, as well as being happy to explain to me how transducers worked on the basis of a college degree in electronic engineering, was also comfortable using the word 'science' in the colloquial Jamaican meaning of magic, Obeah or Voodoo. Indeed at one Stone Love dance, once all the equipment was set up and tested, the Engineer dusted off all the control knobs with a dry paint brush and had the inside of the each of the speaker boxes in each of the stacks washed out with soap and water. Further research is required but this might be considered a ritual or spiritual cleansing – to complement the purity of the sound.[75]

This leads us into a substantial research area concerning the relationship between technology and tradition and indeed technology and magic.[76] Particularly relevant here is the central thesis of Bruno Latour's *We Have Never Been Modern*, that is the modern and ancient have always co-existed in the way that the average city street mixes buildings of different historical styles and periods.[77] Latour goes further than Walter Benjamin's idea of Modernism involving a return of the repressed of 'the primitive'.[78] Extending Latour's anti-developmental approach, I would suggest: *we have always been modern*, either and both ancient and modern. The Reggae sound system session is evidence of this. Just as it's a diasporic apparatus – different places at the same time, it is also a syncretic apparatus – different times at the same place. Observing a Jamaican Kumina 'duty' or ceremony, what literally struck me most powerfully was the thud of the air from the playing of the drums. It made me realize that if the electromechanical coil against the loudspeaker diaphragm makes it a transducer, so equally does the mechanical hand against the animal skin.[79]

Both the material and ethereal aspects of sound evidently and intimately connect us to our body. Sensation, sensitivity and sensuality are all bodily experiences. The exposed flesh, minimal thongs and 'pussy printers' of the Dancehall dress style that so scandalize the Jamaican middle classes, do nothing if not celebrate the female body. Sonic dominance engenders this body – creating it and sexing it. As Freud described dreams for the Unconscious, I'd like to call the sonic 'the royal road' to the body, the *sonic* body, the body touched by sound. This is a whole resonating, specific, shared, social, immediate and fleshy body. The term 'sonic body' implies either and both the body of the sound and the

sound of the body. The corporeality of the sonic body expresses itself in sound and performs through sound. We can listen to the sonic body both symptomatically, as with a doctor's stethoscope to the chest, and sympathetically with our hearts open to its song. Listening puts us both inside ourselves and outside ourselves. Listening to the Reggae sound system it might be possible to understand its sonic rationality. And this could be a model for our thinking in other places. As David Levin put it: 'By virtue of developing our listening, we may find ourselves granted the sense of a different norm, a different measure, a different principle for thinking the 'ratio' of rationality.' [80]

Notes

1. Ideas are conversational beings, dialogic is the only logic in this sense. The impetus for my current research sprang from a conversation with Stuart Hall. I would also like to thank my Goldsmiths College colleges John Hutnyk, Dave Morley and Keith Negus for their helpful comments on earlier drafts. My thanks also to Bibi Bakare-Yusuf for her generous suggestions.

2. The landmark work on acoustic soundscapes is Schafer (1977). For a pioneering approach to thinking in and with sound see Eshun(1998).

3. See for example Gaillot (circa 2000).

4. My most recent research has been with Stone Love but for other films I've worked with other sound systems in the UK: Saxon Sound in *We the Ragamuffin* and JB International in the feature *Babymother*.

5. For an accessible account of the importance of the senses that is both phenomenological and Shamanistic see Abram (1996).

6. Bourdieu (1977).

7. Quoted in Levin (1985: 30).

8. Hardt and Negri (2000: 103).

9. I must thank Bibi Bakare-Yusuf for emphasizing this last point to me and in her own dancehall research.

10. See Howe (1977).

11. Investigating the sensory extremes of sonic dominance one benefit of taking an already socially and culturally constituted apparatus is that custom and practice offer a better guarantee of safety than artifically created laboratory conditions might be able to do.

12. There have been several other approaches to Reggae and Dancehall culture such as Carolyn Cooper's (1993) pioneering study of dancehall culture. Other approaches have concentrated on anthropological and sociological investigation: Stolzoff (2000) and Bradley (2000). Another focus of research has been the lyrics, see for example: Cooper (1994). One of the few to investigate the sonic aspect of the sound system is Chude-Sokei (1997). The image and music of reggae is well covered in Salewicz and Boot (2001). For a unique phenomenologically informed approach to Dancehall see Bakare-Yusuf (2001). Hebdige (1979) was the first to consider the sonic aspects of the sound system as such.

13. For the most comprehensive anthropological account of Kumina and other Jamaican ceremonies see Ryman (1984) and, for their influence on reggae music, White (1984).

14. In other contexts, as with the sound system session, the visual sensory modality is also used to provide sensory orientation, focus and amplification. Examples of such apparatus from further afield would include Bentham's panopticon prison design and the 1609 Leiden anatomy theatre. As I will suggest below, one of the critical functions that sonic dominance facilitates is a particular kind of transformation. In this respect the Reggae sound system session can be considered as an apparatus akin to an alchemical laboratory.

15. See Braidotti (1994) and Deleuze and Gauttari (1988).

16. See for example my father's early study of these issues: Henriques (1953).

17. See Hardt and Negri (1994) and Bataille (1988).

18. As I will be exploring in further research how sonic dominance is achieved through certain technological operations. Principal of these is the separation of different sound frequencies through gates and filters and then their combination in the configuration of the speaker stacks and the 'mix' set by the pre amp controls.

19. Section 7, Memorandum of Objects and Reasons.

20. Attali (1985).

21. For a evocative and provocative discussion of this idea of interruption see Serres (1982).

22. See especially chapter 2, *Sound Barrier and Sound Management*, in Cruz, Jon (1999: 45).

23. See Kahn (1999).

24. Deleuze (1986, 1993) and chapter 14 in Deleuze and Gauttari (1988).

25. The most detailed experiments were conducted by D. O. Hebb at McGill University, Montreal, Canada in 1958.

26. This 'super liminal' state may be contrasted with subliminal states first identified by Vance Packard (1957), who described how product advertising messages are suggested to potential buyers below the level of conscious awareness.

27. Fechner (1966).

28. And a hundred years later this interest was transfigured into on in the quantitative measurement of the difference between the psychological and the

social in the European Social Psychology and Social Categorization theory. See my critique of this in Henriques et al. (1984, 1998).

29. For the most stimulating discussion of the relationship between pain and the creativity of the imagination see Scarry (1985).

30. Interview with Horace McNeal, Stone Love Chief Speaker Builder and Engineer, Jones Town, Kingston, 26 July 2002.

31. See Merleau-Ponty (1962) and Weate (2003).

32. Williams (1955). D. C. Williams was one of Marshall McLuhan's collaborators in the 1950s.

33. I am reminded of one of my inspirations for this piece in Ralph Ellison's prologue to *Invisible Man.* He describes the Invisible Man living underground: 'Now I have one radio-phonograph; I plan to have five. There is a certain acoustic deadness in my hole, and when I have music I want to feel its vibration, not only with my ears but with my whole body. I'd like to hear five recordings of Louis Armstrong playing and singing "What Did I Do to Be so Black and Blue" – all at the same time' (emphasis in original).

34. The distinction space and place is important, see Casey (1993).

35. Auge and Howe (1995).

36. Deleuze and Gauttari discuss haeccity in relation to their distinction between rationalized and non-rationalized spaces in Chapter 14 of Deleuze and Gauttari (1988).

37. I explored this idea of filmic space/time which is in fact the dream space into which every cinema audience enters in my dance drama *Exit No Exit*, using repeated action, speed changes and reverse motion. My inspiration was Maya Deren's film *Choreography for the Camera*. See also Henriques (2002).

38. See Ivins (1938, 1975) and Latour (1990).

39. Romanyshyn (1989).

40. Some of the artists currently recording on these rhythms that I particularly like are Elephant Man and the group T.O.K.

41. Anthony Moore talk *Membranes in Space and the Transmitting Ear*, Goldsmiths College, 20 March 2003. See also Moore (2003).

42. Soesman (1990).

43. See Kittler (1999) and Taussig (1993) and also, for the importance of the materiality of the medium of communication, Crary (1993, 2001). This relationship between speaker and listener is also explored with regard to hearing voices that are not there in Blackman (2001). See also Ree (1999).

44. Barthes (1977).

45. See Henriques (2002).

46. Lucien Freud *Self Portrait* XXX in his 2002 Tate exhibition was the one that struck me in this way particularly.

47. David Rodowick presentation, University of London, School of Advanced Studies, Symposia for Screen Studies, 14 February 2003.

48. See Sedgwick and Frank (1995).

49. Wilden (1972).

50. I have benefited from discussions with Brian Rotman on these matters for many years. See Rotman (1993, 2002).

51. In the 1950s investigating the sung origins of Homer's *Iliad* and *Odyssey* Alfred Lord recorded and analysed the contemporary Slavic epic sung tradition in Yugoslavia. He wrote: 'The truth of the matter is that our concept of "the original" of "the song," simply makes no sense in oral traditions. To us it seems so basic, so logical, since we are brought up in a society in which writing has fixed the norm of a stable first creation in art, that we feel there must be an "original" for everything. The first singing in an oral tradition does not coincide with this concept of the "original." We might as well be prepared to face the fact that we are in a different world of thought, the pattern of which does not always fit our cherished terms. In oral tradition the idea of an original is illogical . . . Our greatest error is to attempt to make 'scientifically' rigid a phenomenon that is fluid . . .' (Lord 1960, 2000).

52. See Jay (1993), Rorty (1979), Jacobs (2001). For a phenomenological explorations of the visual sense see Levin (1985, 1988).

53. My thanks to Nigel Helyer (also known as Dr Sonique) for making this point is his talk to the School of Sound Conference, London 23 April 2003.

54. Levin (1985).

55. See Kahn (1999: 77).

56. See Soesman (1990).

57. Geurts (2003). Another very interesting account of the senses is to be found in Stoller (1989).

58. The importance of this sense of balance continues across the African diaspora into the Americas with the sense of the special significance of dance, movement and more generally style in Jamaican Dancehall culture and are perhaps also being expressed by the phrase 'walk the walk.' See also Hurtston (1934).

59. See for example Grosz (1994), Falk (1994), Wilson (1998).

60. Maffesoli (1996).

61. Stoller, Paul (1989: 23–24).

62. Domblais, Florian (2001).

63. Frederick Kittler made this point in his talk at Goldsmiths College on 6 March 2003. See also Lawlor (1982: 13).

64. Further, each sensory modality is not as discrete and separate from the others as is often assumed. In practice synesthesia is a commonplace occurrence, certainly in the everyday language of the senses. This is full of mixed metaphors of 'warm' or 'loud' colours and 'bright' or 'brittle' sounds. Qualities of one sense are readily transposed onto another, see Abram (1996) for a revealing account

of this. Also the senses are themselves not singular, rather they are bifurcated. We have stereo hearing and binocular vision to give the additional dimension of 'depth' to these sensory fields.

65. In this respect transduction may be related to other types of qualitative change such as phase change (between solid, liquid and gas); transduction as used in cellular biology to describe the passage of chemicals across the semi-permeable membrane of the cell wall; and Malcolm Gladwell's idea of the 'tipping point' whereat continuous increments (for example, in product sales) suddenly produces the breakthrough or discontinuous result of 'it's everywhere'. For a philosophical account of transduction drawing on Simondon's work see MacKenzie (2002).

66. L'Atoinette Osunide Stines the choreographer for my film *Babymother*, has been consistently helpful and informative for my interest is Dancehall dance. There has been very little published on Jamaican dance to date, but see Chapter 5 in Bakare-Yusuf (2001). Of the literature on African dance, one most revealing account is Chernoff (1979).

67. Taken from my field notes of Stone Love, Metro Media, Venus Love and Young Fresh sound systems dance, Stakeland, Half Way Tree, Kingston, Saturday 17 August 2002, 4.30 am.

68. Merleau-Ponty (1962).

69. Wiener (1950).

70. Turner (1974).

71. For one of the most vivid accounts of such initiation rites see Somé (1994).

72. Michel Serres gives an interesting account from a communication theory point of view in Serres (1982).

73. See Brown (1947, 1969) and Bakare-Yusuf and Weate (forthcoming 2004).

74. Alfred Korzybski e development of a non-Aristotelian logic in the 1930's. His famous slogan was: 'The map is not the territory.' This idea of a logic that embraces contradiction is also gestured towards in Freud's idea of the Unconscious operating prior to the conscious evaluative markings of good and bad.

75. This would be supported by the observation I have also made of Jamaican market traders ritually cleaning their pitch with limes and herbs before setting out their wares. They told me it was to bring a good day's trade.

76. For a very readily account of this read Davis 1998). See also Bausinger (1961, 1990), and Zimmerman (1990).

77. Latour (1993).

78. Taussig (1993).

79. I would also like thank L'Antionette Stines and Kumina King Oliver for taking me to witness this Kumina 'duty' on a recent research trip in Jamaica.

80. See Levin (1989: 33).

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28

Resistance

Richard Sennett

The Garden of Eden in which a child prodigy dwells is indeed the sheer ease of making sound. Exit from that musical Garden began for me when I began to perform in public. (Richard Sennett on losing his nerve – (and finding it again – with the help of Agatha Christie)

For musicians, the sense of touch defines our physical experience of art: lips applied to reed, fingers pushing down keys or strings. It might seem that the more easily we touch, the better we play, but facility is only half the story. A pianist or a violinist must constantly explore resistance, either in the instrument or in the musician's own body.

Like every cellist, I learned about touch through mastering movements like vibrato. Vibrato is the rocking motion of the left hand on a string that colours a note around its precise pitch; waves of sound spread out in vibrato like ripples from a pool into which one has thrown a stone. Vibrato does not start with the contact of the fingertip and the string; it begins further back at the elbow, the impulse to rock starting from that anchor, passing through the forearm into the palm of the hand and then through the finger.

There are many kinds of vibratos, some slow and liquid that colour long notes, some that last no more than an instant. These rocking movements of the left hand are also like fingerprints, giving every cellist his or her own distinctive sound. Janos Starker's vibrato is focused, the colouring of his notes is light, whereas Jacqueline du Pre often has a wide, wild vibrato. But even for her, vibrato is the result of discipline.

Freedom to rock requires that a cellist first master the capacity to play perfectly in tune. If a young cellist fails in that mastery, every time he